

Antenna Length v/s Medium of Transmission

The receiving antennae are known as half - wave dipoles, meaning that their length corresponds to half the wavelength of the wave to be detected. When such a wave is incident on the receiving antenna, the electrons in the antenna are excited, causing a current flow through the circuit in the plastic mold. Thus, if the receiving antenna is correctly “matched” to a particular wavelength, the light bulb should glow for operation at that wavelength.

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Based on this information, and calculations in previous questions, can you predict what you can expect to see in this demonstration?

- a.) The lamp on the shorter antenna will glow in air and in water.
- b.) The lamp on the shorter antenna will glow in water, but not in air.
- c.) The lamp on the longer antenna will glow in air, but not in water.
- d.) a.) and c.) are both correct.
- e.) b.) and c.) are both correct.